

[Claims]

1. An endoscope comprising a flexible catheter probe having a plurality of lumens, a handle provided at the proximal end of the probe, an optical system provided in at least one optical system lumen of the catheter probe, at least one working lumen for a surgical instrument and a control element which is fixed to the distal end of the probe or in the proximity thereof for bending the end of the probe and is guided movably in the axial direction at the probe,

characterised in that

- the optical system (6) which projects beyond the proximal end of the catheter probe (1) is guided movably in a flexible tube (2),
- the tube (2) is elastically resilient in its longitudinal direction and is fixedly connected at a fixing location (3) to the optical system (6), and
- the distal end of the optical system (6) is pressed by the tube (2) against a translucent cover (7) which closes the distal end (4) of the optical system lumen (5).

2. An endoscope according to claim 1 characterised in that the fixing location (3) is provided at the proximal end (8) of the tube (2).

3. An endoscope according to claim 1 characterised in that provided at the proximal end (9) of the optical system (6) is a connecting portion (10) which is connectable to an illumination device and/or to an ocular.

4. An endoscope according to one of claims 1 to 3 characterised in that the fixing location (3) is provided at the connecting portion (10).

5. An endoscope according to one of claims 1 to 4 characterised in that the flexible tube (2) is arranged outside the handle (12).

6. An endoscope according to one of claims 1 to 5 characterised in that at its proximal end the catheter probe (1) is mounted rotatably to the

handle (12) in a rotary bearing (14) through which the control element (13) is displaceably guided.

7. An endoscope according to claim 6 characterised in that a releasable fixing device (15) for the catheter probe (1) is provided on the rotary bearing (14).

8. An endoscope according to claim 6 or claim 7 characterised in that the rotary bearing has a manually actuatable rotary portion (38) which is non-rotatably connected to the catheter probe (1).

9. An endoscope according to one of claims 1 to 8 characterised in that the control element (13) is passed through the fixing device (15).

10. An endoscope according to one of claims 1 to 9 characterised in that the proximal end of the control element (13) is releasably connected to a slider (16) mounted to the handle (12).

11. An endoscope according to one of claims 1 to 10 characterised in that the catheter probe (1) has a balloon (17) to which a dilation medium can be fed by way of a balloon lumen (18) in the catheter probe (1).

12. An endoscope according to one of claims 1 to 11 characterised in that a guide wire (11) can be guided through a guide wire lumen (19) which extends from the distal end (20) of the probe to an exit opening (21) in the catheter wall (22), the exit opening being behind the balloon (17).

13. An endoscope according to one of claims 1 to 12 characterised in that the control element (13) is arranged in a flexible support tube (23) which is arranged in a control lumen (25) of the catheter probe (1) and terminates at a given spacing from the distal end (20) of the probe, wherein the given spacing corresponds approximately to the length of a

distal portion (24) of the probe, which is to be bent over by the control element (13).

14. An endoscope according to one of claims 1 to 13 characterised in that the control element (13) is fixed to the distal end of the catheter probe (1) by a shrink tube (26) or by an adhesive (27).

15. An endoscope according to one of claims 1 to 14 characterised in that the support tube (23) is fixed at a fixing location (28) in the axial direction and the remaining portion of the support tube (23) is supported movably with respect to the inside wall of the control lumen (25).

16. An endoscope according to one of claims 1 to 14 characterised in that the fixing location (28) is provided at the distal end of the support tube (23) or in the proximity thereof.

17. An endoscope according to one of claims 1 to 16 characterised in that the surgical implement is removable from the at least one working lumen (29) or is incorporated or integrated into the catheter probe (1).

18. An endoscope according to one of claims 1 to 17 characterised in that the catheter probe (1) is in the form of a disposable component.

19. An endoscope according to one of claims 1 to 18 characterised in that the catheter probe (1) is in the form of an injection moulding or extrusion.